

## POLLUTION PREVENTION STRATEGY – 2002-2007

### **DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**

#### **Pollution Prevention Vision**

“Pollution prevention pays,” say several of the nation's leading corporations. Increasingly, the nation is coming to understand pollution prevention's value—as an environmental strategy, as a sustainable business practice, as a fundamental principle for all our society. Over the next 10 years, waste and discharges to air, water and land will be viewed as waste of resources rather than an inherent byproduct of Delaware's society. Sustainable development and business in concert with a healthy environment will be principles of guiding industry and governmental operations. Both will function based on environmental management systems, with pollution prevention as a fundamental operating principle. The public will be well educated on the benefits of pollution prevention around their homes, and will have moved beyond simple recycling to implementing pollution prevention in their daily decision-making.

#### **Pollution Prevention Strategy**

To achieve the Pollution Prevention Vision stated above, this document lays out the five-year strategy for the Department, including an interim goal to be achieved by the year 2007.

During the next five-years the Pollution Prevention Program will change its approach from being the main source of pollution prevention information to developing those capabilities throughout the Department and industry. The Program will also increase efforts to educate and assist the small business community in recognizing and achieving the benefits of pollution prevention.

The Department will re-invigorate an internal pollution prevention committee which will be responsible for implementing pollution prevention in the Department's own office and field operations.

The DNREC Pollution Prevention Strategy will be reviewed and revised every two years to reflect progress towards the goal and to respond to any newly identified needs and changing conditions. All programs will be required to annually report on their pollution prevention activities.

<sup>1</sup>See attachment 1 for details on the DNREC Pollution Prevention Committee

## **Five-year Goal**

By 2007, the Department and industry will have integrated pollution prevention into their operations. The Department will have increased incentives for industry implementation of pollution prevention. The Department will have demonstrated success in forming partnerships with industry and the public based on geographic location such as watersheds, state and local environmental concerns and community needs. The Pollution Prevention Program will be focusing its efforts on small businesses and non-industrial sectors of society. Pollution Prevention will have expanded beyond the Department to being incorporated into state government as a whole.

## **Individual Program/Customer Strategies**

### **Reduction Goals**

Pollution Prevention is increasingly being incorporated into the environmental programs of most medium and large manufacturers. ISO 14000 is likely to assist in further incorporating pollution prevention into business plans. As part of ISO 14000, it will be important for industry to define their pollution prevention goals and objectives within their environment management plans and to define practical pollution prevention measurements. The Department will work with industry on developing reduction goals and offer voluntary sign-on programs to achieve these goals (e.g. 30% of reduction in TRI emissions from 1995 levels by 2000). To measure reductions, in FY97 we will develop and utilize a tracking systems to quantitatively measure actual generation and emissions reductions and to qualitatively measure the potential for future reductions. Accomplishments made under these programs will be publicized to recognize facilities for their efforts.

### **Small Business**

The small business community has not had the time and resources to attend many training efforts to learn about the benefits of pollution prevention. Over the next 5 years, the Pollution Prevention Program will strengthen its small business focus, working with the DNREC Small Business Assistance Program and other Delaware small business assistance providers and offering outreach efforts at times and locations most convenient for the small businesses. These will include such things as breakfast and luncheon meetings, working with the local chambers of commerce and trade associations. The Pollution Prevention Program and the Small Business Assistance Program will continue to actively participate in developing a network among small business assistance providers and will work with the Small Business Development Center to provide assistance to their clientele. The effectiveness of these efforts will be measured through metrics which include numbers and attendance levels at meetings, number of assistance efforts and through success stories of reductions achieved.

### Success Stories

Identifying success stories is an important tool for both transferring pollution prevention information and recognizing companies for their efforts. The Pollution Prevention Program will continue to gather and publish success stories from Delaware companies each year. One goal is to increase the number of success stories from small businesses over the next five-years

### Pollution Prevention Industry Roundtable

The Pollution Prevention Industry Roundtable has been a valuable service of the Pollution Prevention Program to Delaware's industries. The Roundtable provides a forum for companies to exchange information on their pollution prevention concerns and successes. Companies provide direct assistance to each other through their Roundtable contacts. Efforts will be made to increase the participation in the Roundtable of small and medium-sized businesses.

### Commercial Businesses

Basic pollution prevention education and outreach needs to be targeted to commercial businesses to both assist them in reducing their wastes and to utilize them to educate their clientele on pollution prevention. These businesses would also benefit from collections of success stories, where pollution prevention reaped both environmental and economic paybacks. During the next 5 years, outreach efforts will be developed for the following segments of the commercial business sector.

### Hotels

A "Green Lodging" education/outreach effort will be developed for FY03-05. The effort will include waste reduction, water and energy conservation within Delaware's hotels. The effort may include the US EPA's WAVE program, a voluntary water reduction program for hotels.

### Retail

An education/outreach program was developed for the state's retail community. Case studies were conducted for selected businesses in the state. After these audits were conducted and the businesses meet certain Pollution Prevention goals, they were certified as Delaware Green/Gold Businesses. During FY03-05, the Pollution Prevention Program will continue to work with the retail community by certifying other retail businesses as Delaware Green/Gold Businesses.

### General Public

Our public outreach efforts will continue to be revised and enhanced to increase public awareness of pollution prevention and incorporation of pollution prevention practices into their daily lives. In FY2003-2007 we will focus on increasing P2 Week activities for the general public. Many local government pollution prevention programs around the country have developed innovative public outreach programs; information and feedback from these programs will be utilized to continuously improve our own efforts. The Pollution Prevention Program will also conduct outreach at events such as:

- Delaware State Fair
- Coast Day
- Small Business Resource Fairs
- Farm and Field Day

- Other Miscellaneous events which we are asked to attend

#### Environmental Groups

In FY03-07, the Pollution Prevention Program will carry out an effort to further involve Delaware's environmental groups in promoting pollution prevention among their memberships. Initially, meetings will be held with the groups individually to determine their interest and the best method for working with their membership. If it is appropriate, we will combine these individual activities into a larger outreach event. Groups to be contacted include: the Sierra Club, the Audubon Society, Delaware Nature Society, Save our Waterways, Citizens for Clean Air, AARP, the Partnership for the Delaware Estuary, the citizens advisory component of the Center for the Inland Bays and others.

#### Schools

During FY03-05, the Pollution Prevention Program will be working with the Department of Public Instruction on an outreach effort to reduce waste and pollution from high school and middle school science labs, reducing water and energy usage and to reduce water and energy waste. This project may lead to additional effort to assist schools in incorporating pollution prevention.

#### **DNREC Programs**

DNREC programs are at varying stages of incorporating pollution prevention into their everyday functions. Therefore, different strategies will be utilized to achieve the five-year goal based on individual program needs and interests.

#### **Office of the Secretary**

##### Pollution Prevention Program

The Pollution Prevention Program will continue to provide information resources and build these capabilities within the individual programs and to carry out the customer strategies identified above. Also, the Pollution Prevention Program will act as a clearinghouse for the Department with regards to pollution prevention outreach and educational information. Additional functions of the Pollution Prevention Program will include:

- In FY03, the Pollution Prevention Program will be making available monies through Pollution Prevention Mini Grants to state and local government agencies, school boards of education and state run colleges and universities to implement pollution prevention projects.
- Develop an Environmental Excellence Award Program to recognize business and industry who strive to incorporate P2 into their daily activities.
- Offering training opportunities to Department staff on topics such as process and industry specific pollution prevention opportunities and incorporation of pollution prevention into job functions.
- Supporting supplemental environmental projects (SEPs) and other incorporation of pollution prevention into compliance and enforcement activities.
- Providing feedback to the programs with regard to our interactions with facilities based on their referrals.

- Sponsoring attendance of staff and management at appropriate pollution prevention and conferences.
- Periodically meeting with program staffs to determine if there is a need for pollution prevention outreach in particular sectors.

### Whole Basin Program

DNREC's Whole Basin Program will promote pollution prevention as the first choice in environmental management in the development and implementation of a Resource Protection Strategy for any given basin. The Whole Basin Program draws on each of the following programs in developing these strategies. The pollution prevention activities in these programs will then be brought to use under the Whole Basin Program.

## **Division of Air and Waste Management**

### Solid and Hazardous Waste

The Solid and Hazardous Waste Management Branch (SHWMB) currently includes a pollution prevention aspect in each of its program areas. The major objectives for FY03 and FY04, as they relate to Pollution Prevention, include:

- In FY03, Office of the Secretary to provide training to familiarize new (less than two years) SHWMB compliance inspectors with process specific pollution prevention issues.
- In FY03, the SHWMB will continue to promote activities designed to increase the states residential solid waste diversion percentage.
- In FY03 and FY04 the SHWMB will continue with participation in National Product Stewardship Forums, which encourage product stewardship for electronics as well as other products.
- In FY03 and FY04, the Branch will continue to pursue reduction in the generation of solid and hazardous waste which contain Persistent, Bioaccumulative and Toxic (PBT) compounds.

### Air Quality Management Section

## **Division of Water Resources**

### Division Management Section

Division of Water Resources embraces the principles and practices of P2 and will continue to look for opportunities to implement changes in its document handling, process management, education and outreach initiatives, and permitting activities.

### Environmental Laboratory Section

Since 1997 the ELS has implemented several initiatives to reduce the amount of waste it generates from solid to hazardous waste. Through the purchase of newer technologies the ELS has eliminated its production of P-listed hazardous waste and reduced the generation of F-listed solvent waste by 50%. In addition, the ELS implemented a recycling program. The ELS recycles brown glass, clear glass, plastic, magazines, cardboard, batteries, and white paper.

### Surface Water Discharges Section

The NPDES Program will continue to work to incorporate pollution prevention into permitting. In FY 03, this will include:

- Reviewing all upcoming permits and renewals for pollution prevention incorporation opportunities;
- For selected permits, conducting pollution prevention assessments at the facilities and exploring ways to incorporate pollution prevention into the permit to achieve improved environmental results.

The program will also continue to identify opportunities to incorporate pollution prevention into compliance and enforcement activities, including development of pollution prevention SEPS.

#### Water Supply Section

The Ground Water Program will continue to incorporate pollution prevention into the Comprehensive State Ground Water Protection Plan (CSGWPP). The CSGWPP is a coordinating mechanism which includes all ground-water protection related programs both within the agency and outside. As areas for potential joint initiatives with pollution prevention are identified, projects will be developed and implemented.

#### Wetlands and Subaqueous Lands Section

- By the year 2004, fully implement a no net loss policy for the unavoidable losses of wetlands and for the unavoidable physical alteration of streams by requiring mitigation in wetland and Subaqueous lands permits.
- Ensure that permitted activity in wetlands and waterways minimizes adverse environmental impacts.
- Seek support for state freshwater wetlands legislation/protection programs to address the loss of federal protection of Delaware's unique wetland types.

### **Division of Soil and Water**

#### Sediment and Stormwater Program

The Sediment and Stormwater program is responsible for preventing polluted runoff from construction activities. The focus of the regulations has traditionally been on preventing and trapping sediment-laden runoff. In accordance with Phase II of the Federal National Pollutant Discharge Elimination System (NPDES) Stormwater Program implementation, that focus will be widened to include other contaminants associated with construction activities such as nutrients, metals, petroleum hydrocarbons and floatables. Addressing these substances requires a pollution prevention approach. The following three categories of construction site activities will be targeted to prevent contact between pollutant sources and rainfall/runoff:

- Construction Site Waste Management. BMPs include covering dumpsters, litter prevention and source reduction.

- Vehicle and Equipment Maintenance. BMPs include off-site vehicle washing, maintaining equipment in a contained area, and rinsing out concrete trucks into a designated area for hardening and proper disposal.
- Spill Prevention. BMPs include providing drip pans where valves and piping are present, substituting non-toxic materials for toxic ones, and performing preventive maintenance on tanks, valves, pumps, pipes, and other equipment.

The Sediment and Stormwater Program currently provides training courses for both contractors and construction reviewers in order for them to obtain the required certification. Both of these programs will be revised to include the new pollution prevention initiatives. In addition, updated on-site training for contractors and reviewers will be offered, and P2 related materials will be developed for posting in construction trailers.

Two grant projects are being executed that will educate a wider audience regarding pollution prevention. The “Community Open Space/Stormwater Facility Maintenance Project” targets Homeowners’ Associations and Maintenance Corporations in Kent County. The workshops demonstrate source reduction techniques such as minimizing lawn fertilizer and pesticide applications. Two residential developments have been selected as part of this project to perform stormwater/open space retrofits that will incorporate measures promoting pollution prevention.

A display board with a pollution prevention theme is being developed with funding obtained under a separate grant proposal. The topics will vary but will include P2 BMPs for a variety of target audiences depending on where the exhibit is displayed. At the Delaware State Fair the display will be centered around ways for homeowners to prevent pollutant inputs from their daily activities. When employed at the Contractor’s Certification Course, construction site pollution prevention techniques will be illustrated.

The updated Sediment and Stormwater Program requirements for construction activities will be phased in during 2003. The two training courses will be revised to include the new P2 initiatives in the spring of 2003. By the end of 2003, both of the above-referenced grant projects will be completed. This Program will continue to incorporate and promote new P2 measures as they become available.

#### Non-Point Source Pollution

The basic philosophy of the Nonpoint Source (NPS) Program is to prevent pollution before it happens, mainly through the use of best management practices. The NPS Program will incorporate pollution prevention input during development of the next (2004) Non-Point Source Management Plan for Delaware. As areas for potential pollution prevention assistance to sources of non-point source pollution are identified, collaborative projects will be developed and implemented (e.g. residential stormwater quantity/quality management, marinas, etc.).

#### Delaware Clean Marina Program

Based upon the highly successful Clean Marina initiative in Maryland, Delaware Sea Grant, DNREC’s Division of Soil and Water Conservation, Division of Water Resources and the Pollution Prevention Program are developing a Clean Marina initiative for the State of Delaware. The Delaware Clean Marina Program will assist marina, boatyard, and yacht club operators in

protecting the natural resources that provide their livelihood – clean water and fresh air. It is a voluntary program that gives managers helpful resources to protect the environment and minimize pollution.

By adopting pollution prevention measures, marina operators can:

- Reduce costs associated with waste disposal,
- Generate new sources of revenue,
- Attract responsible customers that will respect and follow good boating practices,
- Enjoy free publicity,
- And take satisfaction in the fact that they are doing their part to protect Delaware's waterways.

The program will recognize environmentally responsible facilities as "Certified Clean Marinas". The environment will benefit from:

- Improved water quality for living resources,
- Reduced trash and chemicals entering our waters,
- Maintenance of healthy ecosystems;
- And Preservation of the scenic beauty of Delaware's waterways.

### Delaware Coastal Programs

#### Federal Consistency

The Delaware Coastal Management Program (DCMP) conducts consistency reviews for all federally funded projects. The DCMP includes pollution prevention language when appropriate, as part of federal consistency approval of grants-in-aid, this correspondence suggests the grant recipient incorporate pollution prevention into project design and implementation. A pollution prevention policy has been incorporated into the policy document for federal consistency reviews. The pollution prevention policy enables the DCMP to require projects to identify expected wastes and evaluate opportunities to minimize waste generation.

#### Coastal Nonpoint Program

The Coastal Nonpoint Program ensures that the State of Delaware has the tools needed to address polluted runoff and is focused on preventing pollution before it occurs through the implementation of management measures. A consistent set of measurement measures was established to use in controlling polluted runoff from a variety of sources and includes enforceable policies and mechanisms to ensure implementation of the measures.

#### Delaware National Estuarine Research Reserve

The Reserve is one of 25 National Estuarine Research Reserves in the United States committed to conducting estuarine research and education. Each Reserve is a partnership between the National Oceanic and Atmospheric Administration (NOAA) and a state entity (DNREC in this instance). Pollution prevention is incorporated into programs for the general public, school groups, and appropriate coastal-decision maker audiences.



## Shoreline and Waterway Management Section

### Biodiesel

The Shoreline and Waterway Management Section operates two dredges with associated marine equipment, a sand bypassing system at Indian River Inlet, two aquatic weed harvesters and numerous other pieces of diesel powered heavy equipment and vehicles in the exercise of its responsibilities. With all its equipment, the Section is the Department's largest user of diesel fuel (60,000 + gallons/year). Under a Department conversion plan initiated by former Secretary DiPasquale, the Section has been using B20 biodiesel (a mixture of 80% low sulfur petroleum diesel with 20% soy diesel from soy beans) in all its diesel engines since August of 2002. Using biodiesel reduces the emission of hydrocarbons, particulate matter, carbon monoxide, sulfur oxides and sulfates.

### Recycling/Reuse

As part of its pollution prevention activities the Section recycles or reuses a number of materials at its field operations facility in Lewes:

- Used or contaminated (with water) oil, hydraulic fluid and diesel fuel is burned for heat in three waste oil heaters.
- Used oil absorbent booms and pads are burned in a high temperature waste to heat recovery system.
- Scrap metals are sold to a metals recycler.
- Concrete pipe and block from on-site building demolition are provided to the Division of Fish and Wildlife for use in the artificial fishing reef program.
- Worn HDPE (plastic) dredge pipe is used as drain pipe by the Drainage Section, used as pile and dock fenders or sold to a plastics recycler.
- Nuisance macroalgae (sea lettuce, etc.) harvested from the Inland Bays is composted with wood chips and made available for use in State Parks and Wildlife Areas.

The Construction Regulations Program of the Shoreline and Waterway Management Section is working to eliminate all construction below Base Flood elevation in areas located seaward of the DNREC Building Line. The absence of structures in this location results in less storm debris following coastal storms and less debris in our landfills. Also, the need to use additional construction materials to replace storm damaged structures is reduced.

## **Division of Parks and Recreation**

### State Parks

The Division of Parks and Recreation and the Pollution prevention Program will work together to provide educational programs for both adults and children through their nature center and campground programs. These programs will be designed to be both entertaining and educational.

The state park visitor and nature centers have been an effective means to provide pollution prevention written information to the public. This mechanism will continue to be utilized for any new publications which are appropriate.

At division nature centers we will fly ozone flags and develop an interpretive panel to explain each color, what they represent and the appropriate action that should be taken.

The Division will take measures to reduce its use of arsenic treated lumber and use plastic recycled lumber in its place when applicable. The Division will also try to use more recycled products when able. The Division will continue to host its Christmas Tree Recycling Program as funds permit. The "Carry-In - Carry-Out Trash Program" which fosters stewardship in the land and personal responsibility in trash removal will be continued in each of our parks. We will also continue to work with Delaware Solid Waste to improve our Recycling centers on park land.

## Attachment I

### **DNREC Pollution Prevention Committee**

#### **Purpose:**

The Pollution Prevention Committee will be responsible for:

- Identifying and implementing pollution prevention opportunities within DNREC operations.
- Identifying innovative P2 strategies for our “customers” that can be implemented through multiple and/or specific programs within DNREC.
- Review grant applications for Department specific and award grants as applicable.
- Review nominations for Environmental Excellence Awards and vote on award recipients.

#### **Membership:**

The committee will be comprised of representatives from each Division, who as an integral part of their respective job duties and responsibilities, apply the principals and practice of pollution prevention.

## **DNREC Pollution Prevention Policy**

The Delaware Pollution Prevention Act passed in 1990 (amended 1996) established as a policy of the State that “waste that is generated should be, in order of priority, reduced at its source, recovered, reused, recycled, treated or disposed of so as to minimize the present and future threat to human health and the environment” (7 Del. Code Chapter 78). It is this Department’s policy to see that the wishes of the General Assembly are carried out at every level of our organization and at every conceivable opportunity, that pollution prevention be the highest priority in our environmental protection efforts. This would include practicing pollution prevention in our business operations as well as incorporating pollution prevention in every instance where we might have the opportunity to facilitate implementation of pollution prevention practices in the regulated community.

The Delaware Pollution Prevention Act defines pollution prevention as “any practice which reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and reduces the hazards to public health and the environmental associated with the release of such substances, pollutants, or contaminants. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping maintenance, training or inventory control”.

Within this agency, it shall be our policy to, in order of priority, “reduce, reuse, or recycle” any potential waste product, including paper (e.g. – by using as little as possible through use of electronic capabilities and 2-sided copying), chemicals (both hazardous and non-hazardous chemicals in our laboratory and at field sites), and any other waste product generated in DNREC offices, in our parks, our natural areas, during outreach campaigns, etc.

As a regulatory agency, we will facilitate pollution prevention by educating our permitted and other customers on the benefits and techniques of pollution prevention and waste minimization. We will make every effort, without exceeding our regulatory authorities, to further the implementation of pollution prevention in the private sector.

Pollution prevention is probably the single-most important step we can take in furthering the concept of sustainable development in Delaware. We have already done much since passage of the Delaware law in 1990, but there will always be opportunities for doing more. It is imperative that we, as employees in DNREC and environmentalists, search out and capitalize on those opportunities.